In The Claims

Kindly enter the claim amendments, without prejudice, as set forth below. A complete listing of the claims is provided, with a parenthetical indication of the status of each claim, and markings to show current changes.

1.   (currently amended)   A system for the cross-correlation of data, comprising:

a plurality n of computers PCi, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

wherein said plurality n of computers PCi are communicably coupled via a connector with a switch;

each of said plurality n of computers PCi further including a storage device configured for storing data Xi;

data Xi being divisible into n partial data units Xi(j), j being an integer from 0 to n-1;

data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;

a computer PCk, wherein computer PCk is configured for cross-correlation processing of partial data Xi(k);

wherein each computer PCi of said plurality n is configured~~to~~ for a first exchange of a partial data- unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PCi is idle during said first exchange; and

wherein each computer PCi of said plurality n is configured~~to~~ for an additional exchange of additional partial data units with a partner computer chosen from said plurality n of computers, so that no more than one computer PCi is idle during said additional exchange.

2.   (previously presented)   The system of claim 1, wherein each computer PCi of said plurality n is configured to exchange with a partner computer n-1 partial data units when n is even, and n partial data units when n is odd.

3.   (currently amended)   A system for the cross-correlation of data, comprising:

a plurality n of computers PCi, n being a real number which is equal to or greater than 2,

and i being an integer from 0 to n-1;

wherein said plurality n of computers PCi are communicably coupled via a connector configured for full duplex transmission and configured for a switching function;

each of said plurality n of computers PCi further including a storage device configured for storing data Xi;

data Xi being divisible into n partial data units Xi(j), j being an integer from 0 to n-1;

data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;

a computer PCk, wherein computer PCk is configured for cross-correlation processing of partial data Xi(k);

wherein each computer PCi of said plurality n is configured~~to~~ for partner exchange of n-1 partial data units with a partner computer, so that no more than one computer PCi is left idle during the partner exchange; and

wherein each computer PCi of said plurality is configured to exchange partial data units with each partner computer once.

4.   (currently presented)   A system for the cross-correlation of data, comprising:

a plurality n of computers PCi, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

wherein said plurality n of computers PCi are communicably coupled via a connector with a switch;

each of said plurality n of computers PCi further including a storage device configured for storing data Xi;

data Xi being divisible into n partial data units Xi(m), m being an integer from 0 to n-1;

data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;

a computer PCk, wherein computer PCk is configured for cross-correlation processing of partial data Xi(k);

wherein each computer PCi of said plurality n is configured~~to~~ for partner exchange of a partial data- unit with a partner computer chosen from said plurality n of computers, so that no more than one computer is left idle during the partner exchange; and

wherein each computer PCi of said plurality n is configured to exchange additional partial data units with a partner computer chosen from said plurality n of computers.

5.   (previously presented)   The system of claim 4, comprising an α turn, α being an integer of 0 and more, wherein the α turn includes partial data units, numbering from n xα to (n xα+n-1), and comprising partial data unit Xi(k+ n x α), the partial data unit Xi(k+ n x α) being located on each computer PCi, wherein the computer PCk is configured for the cross correlation processing of partial data unit Xi(k+ n x α).

6.   (currently amended)   A system according to claims 4 or 5,
        wherein each computer PCi of said plurality n is configured ~~to~~ for partner exchange of n-1 partial data units with a partner computer, so that no computer is left idle, when n is an even number;~~, and~~
        wherein each computer PCi of said plurality n is configured for partner exchange of n partial data units with a partner computer, so that no more than one computer is left idle, when n is an odd number; and
        wherein each computer PCi of said plurality is configured to exchange partial data units with each partner computer once.

7.   (currently amended)   A system for the cross-correlation of data, comprising:
        a plurality n of computers PCi, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;
        wherein said plurality n of computers PCi are communicably coupled via a connector with a switch;
        each of said plurality n of computers PCi further including a storage device configured for storing data Xi;
        data Xi being divisible into n partial data units Xi(m), m being an integer from 0 to n-1;
        data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;
        a computer PCk, wherein computer PCk is configured for cross-correlation processing of

partial data Xi(k);

wherein each computer PCi of said plurality n is configured ~~to~~ for partner exchange of a partial data- unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PCi is left idle during the partner exchange;

wherein each computer PCi of said plurality n is configured to exchange n-1 partial data units with a partner computer; and

wherein each computer PCi of said plurality is configured to exchange partial data units with each partner computer once.

8.   (previously presented)   A system as in any one of the preceding claims, in which the computers PCi of said plurality n are general purpose computers.

9.   (previously presented)   A system as in any one of the preceding claims, comprising a network medium configured for full duplex communications.

10.   (previously presented)   A system as in any one of the preceding claims, in which said data are time series data recorded from radio telescopes.

11.   (currently amended)   A system for the cross-correlation of data, comprising:

a plurality n of computers PCi, n being a real number which is equal to greater than 2, and i being an integer from 0 to n-1;

wherein said plurality n of computers PCi are communicably coupled via a connector with a switch;

each of said plurality n of computers PCi further including a storage device configured for storing data Xi;

data Xi being divisible into n partial data units Xi(j), j being an integer from 0 to n-1;

data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;

a computer PCk, wherein computer PCk is configured for cross-correlation processing of partial data Xi(k); and

wherein each computer PCi of said plurality n is configured to for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PCi is left idle during the partner exchange.

12.   (currently amended)   A system for the cross-correlation of data, comprising:

a plurality n of computers PCi, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

wherein said plurality n of computers PCi are communicably coupled via a connector with a switch;

each of said plurality n of computers PCi further including a storage device configured for storing data Xi;

data Xi being divisible into n partial data units Xi(m), m being an integer from 0 to n-1;

data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;

a computer PCk, wherein computer PCk is configured for cross-correlation processing of partial data Xi(k); and

wherein each computer PCi of said plurality n is configured to for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PCi is left idle during the partner exchange.; and

13.   (currently amended)   A system for the cross-correlation of data, comprising:

a plurality n of computers PCi, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

wherein said plurality n of computers PCi are communicably coupled via a connector with a switch;

each of said plurality n of computers PCi further including a storage device configured for storing data Xi;

data Xi being divisible into n partial data units Xi(j), j being an integer from 0 to n-1;

data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;

a computer PCk, wherein computer PCk is configured for cross-correlation processing of

partial data Xi(k);

wherein each computer PCi of said plurality n is configured-to for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PCi is left idle during the partner exchange; and

wherein each computer PCi of said plurality n is configured to exchange n-1 partial data units with a partner computer; and

wherein each computer PCi of said plurality is configured to exchange partial data units with each partner computer once.

14.   (currently amended)   A system for the cross-correlation of data, comprising:

a plurality n of computers PCi, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

wherein said plurality n of computers PCi are communicably coupled via a connector with a switch;

each of said plurality n of computers PCi further including a storage device configured for storing data Xi;

data Xi being divisible into n partial data units Xi(j), j being an integer from 0 to n-1;

data Xi being divisible into n partial data units Xi(k), k being an integer from 0 to n-1;

a computer PCk, wherein computer PCk is configured for cross-correlation processing of partial data Xi(k);

wherein each computer PCi of said plurality n is configured-to for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PCi is left idle during the partner exchange;

wherein each computer PCi of said plurality n is configured to exchange n-1 partial data units with a partner computer; and

wherein each computer PCi of said plurality is configured to exchange partial data units with each partner computer once.

15.   (previously presented)   A system as in one of claims 11-14, comprising a network

medium configured for full duplex communications.

16.   (new)   The system of claim 1, wherein n is an odd number.

17.   (new)   The system of claim 1, wherein $n = 2^K + 1$, wherein k is an integer greater than 0.

18.   (new)   The system of claim 1, wherein $n = 2^K - 1$, wherein k is an integer greater than 0.